A3694A
Dual-Bus 4-Slot HP-HSC Expansion I/O Installation Guide

HP9000/K570 Enterprise Servers

Edition 1, E0797

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Preface

This Installation Guide contains technical information about HP 9000 Computers. The HP 9000/Kxxo family of computers includes the following models:

HP9000/Kxx0 Servers	HP9000 Workstations
K100	HP VISUALIZE K260-EG
K200	HP VISUALIZE K460-EG
K210	HP VISUALIZE K460-XP
K220	
K250	
K260	
K270	
K370	
K400	
K410	
K450	
K460	
K570	

NOTE	The Dual-Bus 4-Slot HP-HSC Expansion I/O Card may be installed ONLY on HP9000/K570 systems.

1 Installation Procedures

HP9000/K570 systems, as with many other HP9000 systems, have a primary HP-HSC Expansion I/O slot for upgrades. This slot is immediately to the right of the Core I/O card as viewed from the rear of the system (refer to Figure 1).

HP9000/K570 systems can optionally use the slot to the right of the primary expansion I/O slot for additional processors or as a secondary HP-HSC Expansion I/O slot. The A3694A Dual-Bus 4-Slot HP-HSC Expansion I/O product adds an additional four I/O slots in this position.

Electrostatic Discharge

CPU cards and computer systems contain assemblies and components that are sensitive to electrostatic discharge (ESD). Carefully observe the precautions listed in this section and use the ESD wrist strap, ESD sheet, and ESD foam pad provided in the ESD kit (part number A3024-80004). The following precautions can significantly reduce the risk of system failure or component damage due to ESD.

- Always wear a grounded wrist strap when working around a system or handling the CPU card.

- Treat all assemblies, components, cards, and connections as sensitive.

- When unpacking cards or components to the system, keep the item in it's conductive bag until it is ready to be installed.

- Keep body movement to a minimum, this generates static electricity that causes ESD.

- Avoid working in carpeted areas.

- Try to select a work area where potential static sources are minimized.

Anti-Static Wrist Strap

The anti-static wrist strap is a bracelet like strip that goes around either wrist. The other end of the strap connects to a convenient metal surface on the computer cabinet.

Anti-Static Mat

The anti-static mat can be either the conductive bag, the ESD sheet, or the ESD foam pad. The anti-static mat does not have to be connected to the cabinet. It should be placed close to the computer while performing the upgrade tasks.

Tools required

To accomplish the upgrade procedures to the computer the following tools are required:

- A Torx #10 driver. (This is the preferred tool)
- A flat blade screw driver. (this can be used if a Torx driver is not available)
- A3204-80004 ESD Kit
- Flashlight or alternate light source (recommended but not required)

Installation Procedures

NOTE	A 2-slot or 4-slot HP-HSC Expansion I/O product must be present in the primary HP-HSC Expansion I/O slot before adding the A3694A product to the secondary HP-HSC Expansion I/O slot.

1. Log Off all users and stop all active applications that may be running.

2. Perform a system backup of the entire Operating System and data base. If this is not feasible, perform a backup of the data base. (This should be done at a scheduled interval as common practice for protecting any new data or changes to the existing data base.)

3. Perform a system shutdown. Enter "/etc/shutdown -h" at the prompt.

4. Turn the computer key switch to the STANDBY position.

5. At the rear of the computer, unplug the power cord.

6. Remove the cover plate on the Processor/Dual Bus HP-HSC Expansion I/O slot next to the primary HP-HSC Expansion I/O slot (see Figure 1) by loosening the two (one top and one bottom) captive mounting screws (see Figure 2) and pulling the cover plate away .

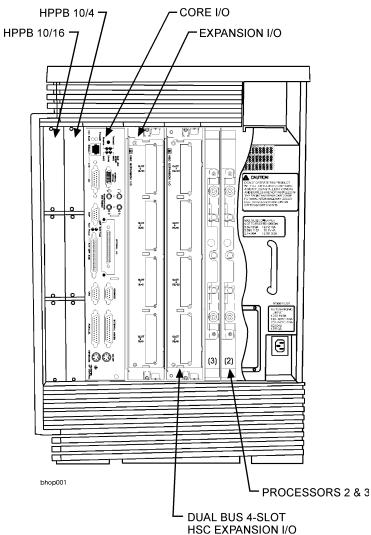| NOTE	**Backplane Card Slot Color Codes**

The following color bars appear above the slots on the system backplane:

Table 1   Color Codes

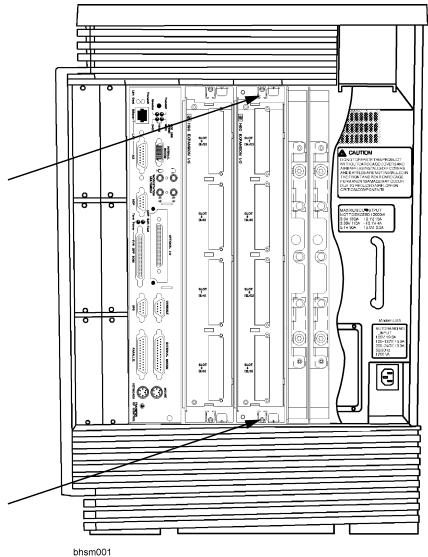| Color	Slot
Yellow	HP-PB0
Green	HP-PB1
Blue	Core/IO
Orange	HP-HSC Expansion I/O (primary)
Split Magenta/Purple[a]	Optional HP-HSC Secondary I/O or additional Processor slots.
Purple	Processor slots.

a. HP9000/K570 systems only.

I/O and processor cards have matching color codes to assist in correctly matching the cards to the right slots.

Figure 1   HP9000/K570 Rear View

7. Remove the adjoining processor slot's cover plate by loosening the two (one top and one bottom) captive mounting screws and pulling the cover plate away. (This is necessary to gain access to the system board.)

8. Reach into the computer cabinet and remove the plastic dust cover from the HP-HSC expansion connector on the system board.

9. Remove the plastic dust cover from the Dual Bus 4-Slot HP-HSC Expansion I/O Card connector.

10. Align the Dual Bus 4-Slot HP-HSC Expansion I/O Card into the card slot and slide it into the computer.

11. When the card makes contact with the system board connector, press the edge of the card to fully seat the card into the computer. Tighten the two captive screws to secure the expansion I/O card.

12. Replace the CPU cover plate and tighten the two captive mounting screws.

Figure 2   Screw Locations

bhsm001

If this completes the upgrade, proceed to Upgrade Verification.

Upgrade Verification

Before performing the procedures in this section, make sure that all cover plates that were removed are reinstalled and secure. This is for proper seating of cards, as well as cooling requirements.

1. Reconnect the power cord to the rear of the computer.

2. Turn the computer key to the ON position.

3. Observe the Front panel Display and console for any error or fault (FLT) messages.

When all procedures are complete, with no errors or faults, the system needs to be re-configured to add the new HP-HSC path addresses. Refer to the Owner's Guide for configuration instructions. The HP-HSC Slot path addresses are also the same as shown in Table 2.

Table 2   HP-HSC Slot Addresses

Location	Device Type	Address Path
Core I/O card, Optional I/O connector	HP-HSC I/O card	10/8 (device addr.)
Primary Four Slot HP-HSC Expansion I/O		
HP-HSC I/O Expansion card, slot 0	HP-HSC I/O card	8/0 (device addr.)
HP-HSC I/O Expansion card, slot 1	HP-HSC I/O card	8/4 (device addr.)
HP-HSC I/O Expansion card, slot 2	HP-HSC I/O card	8/8 (device addr.)
HP-HSC I/O Expansion card, slot 3	HP-HSC I/O card	8/12 (device addr.)
Secondary Four Slot HP-HSC Expansion I/O (K570 only)		
HP-HSC I/O Expansion card, slot 0	HP-HSC I/O card	12/0 (device addr.)
HP-HSC I/O Expansion card, slot 1	HP-HSC I/O card	12/12 (device addr.)
HP-HSC I/O Expansion card, slot 2	HP-HSC I/O card	14/8 (device addr.)
HP-HSC I/O Expansion card, slot 3	HP-HSC I/O card	14/12 (device addr.)